

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
STEPHEN GIGANTE  
KLAUBER & JACKSON  
411 HACKENSACK AVENUE  
HACKENSACK, NJ 07601

## PCT

### INVITATION TO PAY ADDITIONAL FEES

(PCT Article 17(3)(a) and Rule 40.1)

Applicant's or agent's file reference  715100/PCT	Date of Mailing (day/month/year)
International application No.  PCT/US02/14579	International filing date (day/month/year) 07 May 2002 (07.05.2002)
Applicant  NEW JERSEY INSTITUTE OF TECHNOLOGY	

1. This International Searching Authority

(i) considers that there are 2 (number of) inventions claimed in the international application covered by the claims indicated below/on an extra sheet:  
Please See Continuation Sheet

and it considers that **the international application does not comply with the requirements of unity of invention** (Rules 13.1, 13.2 and 13.3) for the reasons indicated below/on an extra sheet:  
Please See Continuation Sheet

(ii) ☐ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:

(iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid.

2. The applicant is hereby **invited**, within the time limit indicated above, to pay the amount indicated below:

\_\_\_\_\_ X \_\_\_\_\_ = \_\_\_\_\_  
 Fee additional per invention      number of additional inventions      total amount of additional fees

The applicant is informed that, according to Rule 40.2(c), **the payment of any additional fee may be made under protest**, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☐ Claim(s) Nos. \_\_\_\_\_ have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer  Krishnan S. Menon  Telephone No. 703-305-5999
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**INVITATION TO PAY ADDITIONAL FEES**

International application No.  
PCT/US02/14579

This International Search Authority has found 2 inventions claimed in the International Application covered by the claims indicated below:

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-12, drawn to microporous membrane.

Group II, claim(s) 13-48, drawn to method of preparation of a microporous membrane and microporous membrane prepared by the method.

1. This International Searching Authority considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated below:

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The membrane in Group I could be made by other materially different methods such as phase inversion, particle bombardment, irradiation, solvent extraction of a soluble component, irradiation, etc.

2.. Additional fee requirement is waived because of the delay in processing this application. All claims will be searched.

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 715100/PCT	<b>FOR FURTHER ACTION</b>	see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.
International application No. PCT/US02/14579	International filing date ( <i>day/month/year</i> ) 07 May 2002 (07.05.2002)	(Earliest) Priority Date ( <i>day/month/year</i> ) 07 May 2001 (07.05.2001)
Applicant NEW JERSEY INSTITUTE OF TECHNOLOGY		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 8 sheets.



It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the Report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐

the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐

contained in the international application in written form.

☐

filed together with the international application in computer readable form.

☐

furnished subsequently to this Authority in written form.

☐

furnished subsequently to this Authority in computer readable form.

☐

the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐

the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (See Box II).

4. With regard to the **title**,

☒

the text is approved as submitted by the applicant.

☐

the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒

the text is approved as submitted by the applicant.

☐

the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_

☐

as suggested by the applicant.

☐

because the applicant failed to suggest a figure.

☐

because this figure better characterizes the invention.

☒

None of the figures

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/14579

## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2. ☐ Claim Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
  
3. ☐ Claim Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Group I, claim(s) 1-12, drawn to microporous membrane.

Group II, claim(s) 13-48, drawn to method of preparation of a microporous membrane and microporous membrane prepared by the method.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The membrane in Group I could be made by other materially different methods such as phase inversion, particle bombardment, irradiation, solvent extraction of a soluble component, irradiation, etc.

Additional fee requirement is waived because of the delay in processing this application. All claims will be searched.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
  
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

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The additional search fees were accompanied by the applicant's protest.

☐

No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/14579

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : B01D 39/00, 39/14, 63/00, 65/00, 71/00; B29C 47/00; H05B 7/00

US CL : 210/500.21, 264/466

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 210/500.21, 264/466, 428/483, 210/490, 210/650, 210/652, 210/653, 210/654, 264/45.9, 264/46.1, 264/46.2, 264/46.3

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
DERWENT

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,791,144 A (NAGOU, ET AL.) 13 December, 1988, col 6: lines 1-18, col 4: lines 5-15, col 5: lines 18-31, col 12 lines 24-25, col 7: lines 52-61	1-7, 13, 16, 31 and 34.
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Y		8-12, 14, 15, 17-30, 32, 33, 35-48
Y	US 5,643,681 A (VOORHEES, ET AL), 01 July, 1997, col 4: lines 50-65	8-12
Y	US 5,962,544 A (WALLER, JR), 05 October, 1999, col 6, lines 1-5	14, 24, 32, 42
Y	US 5,013,439 A (FISHER, ET AL), 07 May, 1991, col 7: lines 30-65	17-20, 27-30, 35-38, 45-48
Y	US 4,366,062 A (KURIHARA ET AL), 28 December, 1982, col 7 lines 64-68	25, 33, 43,
Y	US 4,867,881 A (KINZER), 19 September, 1989, col 4 lines 39-60, col 6 lines 1-68, col 8 lines 1-49, col 9 lines 5-10	1-48
Y	US 5,690,949 A (WEIMER ET AL), 25 November, 1997, col 4, lines 33-67, col 7 line 58- col 8 line 67, col 10, col 11 lines 5-18	1-48

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
15 July 2002 (15.07.2002)	
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer Krishnan S. Menon Telephone No. 703-305-5999

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
STEPHEN GIGANTE  
KLAUBER & JACKSON  
411 HACKENSACK AVENUE  
HACKENSACK, NJ 07601

## PCT

### INVITATION TO REQUEST RECTIFICATION

(PCT Rule 91.1(d))

Date of Mailing  
(day/month/year)

Applicant's or agent's file reference

715100/PCT

REPLY DUE

see item 2 and the last paragraph below

International application No.

PCT/US02/14579

International filing date

(day/month/year) 07 May 2002 (07.05.2002)

Applicant

NEW JERSEY INSTITUTE OF TECHNOLOGY

1. This International Searching Authority has discovered in the international application/in other papers submitted by the applicant/what appears to be an obvious error.



as shown on the attached copy



as specified hereafter:

Please See Continuation Sheet

2. The applicant is hereby invited to submit a request for rectification to the following authority:



the receiving Office



this International Searching Authority



the International Bureau of WIPO  
34 chemin des Colombettes  
1211 Geneva 20, Switzerland

#### HOW TO CORRECT AN ERROR (Rule 26.4(a))



A replacement sheet must be submitted and the rectification must be stated in an accompanying letter drawing attention to the differences between the replaced sheet and the replacement sheet



The rectification may be stated in a letter.



The applicant may choose either of the two possibilities described above.

#### ATTENTION

No rectification will be made without the express authorization of the competent authority indicated above and, in order to be effective, the authorization by that authority must reach the International Bureau, or be given by the International Bureau, as the case may be, before the completion of the technical preparations for international publication (Rule 91.1(g) to (g-quater)).

Name and mailing address of the ISA/US

Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703)305-3230

Authorized officer

Krishnan S Menon

Telephone No. 703-305-5999

## INVITATION TO REQUEST RECTIFICATION

International application No.  
PCT/US02/14579

### 1. the Obvious Errors that You Wish to Invite Applicant to Correct:

1. Lines 13 and 14, page 14 defines first component as 90% and second component as 10%. Lines 14 and 15 of page 7 defines first component as the minor component and second component as the major component.

2. Minor component is defined as first polymeric component in line 14, page 7. Subsequently, it is stated as just 'first component' in other parts of the specification

3. Lines 13-18, page 14: derivation of the proportions of first, second and third components unclear. Since all components are polymers, 'weight of polymers' in line 17 could mean the total weight of the three components together. If that is the case, 90:10:5 mix will produce <5% of third component.

Appropriate correction is required.

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors.

Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

# PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:  
STEPHEN GIGANTE  
KLAUBER & JACKSON  
411 HACKENSACK AVENUE  
HACKENSACK, NJ 07601

## PCT

### NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference 715100/PCT	Date of Mailing (day/month/year)  <b>FOR FURTHER ACTION</b> See paragraphs 1 and 4 below
International application No. PCT/US02/14579	International filing date (day/month/year) 07 May 2002 (07.05.2002)
Applicant NEW JERSEY INSTITUTE OF TECHNOLOGY	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

**Filing of amendments and statement under Article 19:**

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

**When?** The time limit for filing such amendments is normally two months from the date of transmittal of the international search report.

**Where?** Directly to the International Bureau of WIPO, 34, chemin des Colombettes  
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 740.14.35

**For more detailed instructions,** see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.

3. ☐ **With regard to the protest** against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Reminders**

Shortly after **18 months** from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90 *bis*.1 and 90 *bis*.3, respectively, before the completion of the technical preparations for international publication.

Within **19 months** from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase **until 30 months** from the priority date (in some Offices even later); otherwise the applicant must, **within 20 months** from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of **30 months** (or later) will apply even if no demand is filed within 19 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the *PCT Applicant's Guide*, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the ISA/US Commissioner for Patents Box PCT Washington, D.C. 20231 Facsimile No. (703)305-3230	Authorized officer  Krishnan S. Menon  Telephone No. 703-305-5999
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